

AMERICAN SOCIETY OF CIVIL ENGINEERS

PROCEEDINGS

VOL. 55

APRIL, 1929

No. 4

SOCIETY AFFAIRS

DALLAS MEETING

The Spring Meeting to be held in Dallas, Tex., April 24-26, promises to be illuminating in many respects.

The program at the general sessions, will be devoted largely to the engineering and economic aspects of the oil industry. This is one of the main enterprises of the region, as Dallas is on the edge of the great mid-continent petroleum field. Hence, the treatment is bound to be of a practical rather than an academic nature.

Various phases of the subject are listed for presentation, such as the recent economic changes in industrial life, modern deep-well drilling methods, the development of the gas and oil industry in the Southwest to-day, oil and pipeline construction, etc. Of course, these topics will not limit the discussion. Actually many of the varied aspects of a complicated and far-reaching industry will be subject to study.

The list of assigned speakers would command respect in any gathering of oil men. Among these are such well-known personages as Martin J. Insull, President of the Central and Southwestern Utilities Company; W. W. Scott, Chief Production Engineer of the Humble Oil Company; J. Edgar Pew, Vice-President of the Sun Oil Company; E. C. Kincade, Vice-President of the Gulf Pipe Line Company, and others.

As usual, the second day of the meeting will be turned over to the Technical Divisions, including the City Planning, Highway, Irrigation, Surveying and Mapping, and Sanitary Engineering Divisions. All these Divisions have programs dealing with problems and activities vital to engineers in the whole Southwest.

Without attempting to discriminate, it is possible to mention a few of the outstanding papers. For example, a paper describing irrigation works in Mexico will be presented by Senor Ignacio Bancalari, Director of the National Irrigation Commission of Mexico. Other irrigation papers will deal with the Lower Rio Grande Valley and with the International Water Boundary Commission.

A discussion covering the equitable distribution of motor license fees and gasoline taxes among highway projects promises to create wide interest. City Planning problems for both large and small cities have places on the program. In the field of surveying, retracement, topographic, and control surveys are listed.

Social features arranged by the local members will be most attractive. Special attention is being given to make the meeting one to be remembered by the ladies who attend. On the last day the entire party will visit one of the great power plants of the Southwest and other engineering works near Dallas.

It should not be overlooked that mild spring weather may be expected in Dallas during late April. While more northern climes are hardly out of the grip of winter, those attending the Spring Meeting should enjoy an ideal vacation. It will give to those who are not acquainted with the great Southwest an idea of the rapid development that has taken place in the cities and industries and other works in which engineers are interested and employed. Dallas and Fort Worth, the two largest cities in Northern Texas, have a

combined population of nearly 450 000, and the Texas Local Section, one of the most active in the Society, has a membership of more than 400.

A royal welcome awaits the Society. Full and detailed schedules of meetings will shortly be available in the official program. It should be noted that the limits for the Certificate Plan of railroad tickets have been reduced, so that now 150 certificates insure the operation of this economical provision.

Many members should avail themselves of this saving. An early return of the order blanks is a great help to the committees who have to arrange the intricate details of the meeting accordingly.

SOCIETY SCHOLARSHIP AT COLUMBIA

In these days of expensive education, the opportunity to obtain practically the full tuition at an exceptional engineering school should not be overlooked. Such a possibility is offered by the scholarship at Columbia University, placed at the disposal of the Society.

Actually the award is \$350 per year, with the possibility of renewal under satisfactory progress of the student. As such, it amounts to what might be considered a relatively large sum. Considering the opportunities for other earnings in a city like New York, during the college year, and the additional sum available from vacation work, a student could almost surely pay his full way.

Not only that, but the educational advantages must commend themselves to those who are familiar with American engineering colleges. Many and varied courses are available, and opportunity is offered for specialization such as few localities afford. An applicant must have had at least three years' work in a recognized college. Preference is given, of course, to student members of the Society.

To some such man, this will prove a wonderful opportunity for rounding out his engineering training. At Columbia, the engineering work is on a 6-year basis, so that the appointee will enter the latter part of this excellent course. No candidate should overlook the unusual facilities of this large institution, nor the supplementary benefits of the other educational features of the city.

Applications are to be made direct to the Society. More complete information will gladly be sent on application.

FREEMAN FUND SCHOLAR RETURNS

All three of the original winners of the Freeman Fund Scholarships from the Society are now back in the United States. The last to return is Lorenz G. Straub, Jun. Am. Soc. C. E., who arrived from Germany on February 27.

Following a brief rest, Mr. Straub will settle in Kansas City, Mo., and devote his time to work with the U. S. Engineer Corps, where he will be able to apply his studies on river hydraulics. Mr. Straub's latter months in Europe have been spent largely in the translation of hydraulic writing. He was the first to leave and the last to return, of the original group.

The other two for some months have been pursuing work in the United States. F. Theodore Mavis, Assoc. M. Am. Soc. C. E., was the first one back. For the past college year he has been teaching at the University of Iowa, Iowa City, Iowa. Shortly afterward, Morrough P. O'Brien, Jun. Am. Soc. C. E., returned from Sweden, and engaged in teaching hydraulics at the University of California, Berkeley, Calif.

It seems reasonable to expect that these young engineers will find increasing opportunity to apply the latest advances in European studies of hydraulics to American practice. The Freeman Fund Scholarships will then indeed have begun to repay their outlay with added interest.

ENCYCLOPEDIA OF JAPAN

As a messenger of Japanese good-will the recent special issue of "The Japan Times", sent to the Society, accomplishes much. The occasion of this ambitious publication was the coronation ceremony in November, 1928, of their Imperial Majesties, the Emperor and Empress of Japan. A considerable part of this Enthronement Number gives in pictures and text a description of the elaborate ceremony. Any American will receive a new respect for the dignity and importance bestowed on such an event in Japan.

In form, this special issue resembles the "Illustrated London News" as much as any English speaking publication. The size, the arrangement, and the attractiveness are similar. Not all of the number is given over to incidents of the coronation. In all, there are about 260 pages of news, with perhaps 20 pages of advertising in addition.

Of equal interest to an American reader is the complete information along

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the various lines of Japanese endeavor—government, industry, business, commerce, society, and art. In reality, this issue is an encyclopedia of Japanese life, both official and private. It shows the marvelous strides made in industry of all kinds. Thus, it becomes evident that the engineer occupies an important function in Japanese life.

Members who are interested in any of the various phases covered will find a veritable treasure house in this number. It may be that those who intend to visit the Orient, especially in connection with the World's Engineering Congress during the Fall, will be glad of such authentic information. The volume will be found in the Reading Room of the Society, for reference on the part of any one interested. The Society is greatly indebted to W. W. Stevens, M. Am. Soc. C. E., for his courtesy in forwarding this Enthronement Number of "The Japanese Times".

ENGINEERING FELLOWSHIPS— UNIVERSITY OF WISCONSIN

Several opportunities for graduate study in Engineering are offered at the

University of Wisconsin for the year 1929-30. Three University Fellowships at \$750 per year are available to graduates of engineering colleges of recognized standing. Incumbents are expected to complete their work for the Master of Science degree in one year. A small amount of assigned work may be required.

In addition, two Research Fellows will be appointed for a period of two years, subject to satisfactory service; salary for the first year will be \$900, and for the second, \$1 100. Appointees are expected to devote not less than one-half their time to assigned research. They will be given an opportunity, however, to complete the requirements for the Master of Science degree. Candidates must be graduates of Engineering Colleges of recognized standing, and preferably should have had one or two years of graduate study, teaching, or experience.

As appointments will be made April 25, applications should be received not later than April 15. The necessary blanks may be obtained immediately from Dean F. E. Turneaure, College of Mechanics and Engineering, University of Wisconsin, Madison, Wis.

PROGRESS OF UNITED ENGINEERING SOCIETY

The Board of Trustees (three from each of the four National Societies) conducts the business committed to United Engineering Society by its Founder Societies under its Charter, the Founder's Agreement, and the Library Agreement. This business is transacted by the Trustees at their ten monthly meetings and through the Finance Committee, the officers, the staff, and special committees.

A draft of a budget of revenue and expenditures for the ensuing calendar year is presented each September to the Secretaries of the Founder Societies for the information and comment of their governing bodies. After revision, the budget is adopted by the incoming Board of Trustees at its meeting in January.

Each January, reports for the preceding calendar year by the President, the Treasurer, and the Finance Committee, and a financial statement of receipts and expenditures, are sent to the office of each Founder Society. Reports are made also by Engineering Societies Library and Engineering Foundation. These annual reports give full information about the

activities and finances of the three departments of United Engineering Society.

Engineering Societies Building is tax exempt. It is administered in the main on a co-operative basis and not for profit. For convenience, assessments for the use of offices have been reduced, with the aid of experience, to a floor-area basis, and those for use of the meeting halls, to a schedule of charges. Offices not used by the Founder Societies and their joint organizations are allotted to Associate Societies. When the meeting halls are not in use by the Founder Societies, other patrons use them to the extent of the demand which it has been practicable to develop. Revenue from Associates Societies and from meeting halls reduces the burden upon the Founder Societies for maintenance, operation, and fixed charges on the building. To each Founder Society interest at the rate of 4.8% per annum is paid on its investment or \$262 500 in the land and building, amounting to \$12 600 a year.

The building is maintained constantly in good condition and there is a Depreciation and Renewal Fund, a long-range

budget provision against major repairs and renewals and the obsolescence of the structure above the foundation. Additions and improvements have been made to the building from time to time since it was dedicated in 1907, the largest being the addition of three stories in 1916-17, when the American Society of Civil Engineers joined United Engineering Society.

United Engineering Society administers also several trust funds for Engineering Foundation and Engineering Societies

Library and is seeking much needed increase of these endowments. In financial operations and management of the property, the Trustees have the services of trust companies as custodians for the funds and advisers in making investments, legal counsel, certified public accounts as auditors, and a consulting architect.

This brief resumé will serve to give a proper perspective to the attached financial statistics of United Engineering Society covering the year 1928.

Summary—Treasurer's Report

Operation of Building:

Credit balance January 1, 1928.....		\$7 331.35
Insurance refund and adjustments.....		2 253.90
Building revenue, 1928	\$130 551.72	
Building expenditures, 1928.....	111 767.59	18 784.13
		<hr/>
		\$28 369.38
Annual payment to Depreciation and Renewal Fund.....		12 000.00
		<hr/>
Credit balance, December 31, 1928.....		\$16 369.38

Operation of Library:

Maintenance revenue	\$46 009.65	
Maintenance expenditures	45 584.10	
	<hr/>	
Credit balance, December 31, 1928.....		\$425.55
Service Bureau revenue.....	\$20 261.47	
Service Bureau expenditures and adjustments.....	19 163.80	
	<hr/>	
Credit balance, December 31, 1928.....	\$1 097.67	
Credit balance, January 1, 1928.....	2 830.19	
	<hr/>	
Total credit balance, December 31, 1928.....		\$3 927.86

Funds and Property:

Funds held by U. E. S., December 31, 1928 (book value):

Depreciation and renewal	\$233 743.73
General reserve	5 773.40
Engineering Foundation	517 753.95
Henry R. Towne Engineering.....	49 953.13
Library endowment	104 652.22
Reserve for depreciation of capital of Library.....	4 000.00
Edward Dean Adams	100 000.00
John Fritz Medal (U. E. S. Custodian).....	3 500.00
Louvain Memorial Fund (cash in bank).....	9 470.51

Total	\$1 028 846.94
Real estate owned by U. E. S., cost to December 31, 1928.....	1 973 410.42
Operating cash and petty cash.....	14 251.47
Accounts receivable	2 032.96
Value of Library (as appraised for insurance).....	348 056.00
Winchell Library Suspense Account.....	374.35
Unexpired fire insurance premiums.....	6 340.55

Total property for which U. E. S. is Trustee or Custodian..... \$3 373 312.69

Balance Sheet

ASSETS

Real Estate:

Land	\$540 000.00	
Building	1 376 239.26	
Equipment	33 171.16	
Founders' preliminary expenses.....	24 000.00	\$1 973 410.42

Investments and Cash Uninvested:

Depreciation and Renewal Fund.....	233 743.73	
General Reserve Fund.....	5 773.40	
Engineering Foundation Fund.....	517 753.95	
Henry R. Towne Engineering Fund.....	49 953.13	
Library Endowment Fund.....	104 652.22	
Reserve for depreciation of Library capital.....	4 000.00	
Edward Dean Adams Fund.....	100 000.00	
Louvain Memorial Fund (cash in bank).....	9 470.51	
Operating cash and petty cash.....	14 251.47	
Accounts receivable	2 032.96	
Winchell Library Suspense Account.....	374.35	
Unexpired fire insurance premiums.....	6 340.55	
Total		\$3 021 756.69

LIABILITIES

Founders' equity in property.....	\$1 973 410.42	
Depreciation and Renewal Fund.....	233 743.73	
General Reserve Fund	5 773.40	
Engineering Foundation Fund.....	517 753.95	
Henry R. Towne Engineering Fund.....	49 953.13	
Library Endowment Fund.....	104 652.22	
Reserve for depreciation of Library capital.....	4 000.00	
Edward Dean Adams Fund.....	100 000.00	
Louvain Memorial Fund balance.....	9 470.51	
Endowment Committee Reserve (balance on hand).....	702.57	
Endowment Contribution (undesignated).....	1 000.00	
Louvain Memorial Dinner (cash on hand).....	225.00	
Deposits on account of hall rentals.....	328.00	
Deposits, Library Service Bureau.....	20.97	
Credit balance in activity accounts.....	20 722.79	
Total		\$3 021 756.69

Local Sections*

Baltimore.—February 15, 1929. A Joint Meeting of the Section with the Engineers' Club of Baltimore, was held at the Club Rooms. The activities of the Department of Public Works of the City of Baltimore were discussed by Messrs. Nathan L. Smith, Highway Engineer, Warren Viessman, Mechanical-Electrical Engineer, C. K. Allen, Acting Head, Bureau of Street Cleaning, and Milton J. Ruark, Sewerage Engineer. The discussions were illustrated with lantern slides, showing recent work done by the City and the methods followed by the various Bureaus. Attendance 67.

Central Illinois.—February 21, 1929. A regular dinner meeting of the Section was held at the Inman Hotel, Champaign. Lincoln Bush, Past-President of the Society, was the special speaker of the evening. He made two addresses: The first was an illustrated lecture on "The Use of Sand-Jacks in Lowering a Drawbridge over the Passaic River at Newark, N. J."; and the second was entitled "Some Builders of Our Country." This was an open meeting to which the engineers of the State attending the Highway Short Course at the University of Illinois were invited. Attendance 85.

Cincinnati.—February 11, 1929. A regular meeting of the Section was held in the rooms of the Engineers' Club. Short addresses on "The Cincinnati Union Depot Project" (estimated cost about \$40 000 000) were given by members of the organization of the Cincinnati Union Terminal Company, as follows: C. A. Wilson, Consulting Engineer, who spoke on "History"; H. M. Waite, Chief Engineer, on "General Outline"; J. M. Belknap, Field Engineer, on "Base Line Survey and Other Special-Field Problems"; George P. Stowitts, Engineer of Design on "Special Features and Studies on the Plans"; R. M. Miller, Assistant Engineer, on "Grading"; R. J. Bear, Assistant Engineer, on "Traffic Analysis Through Station Throats"; J. C. V. Christensen, Structural Engineer, on "Structural Features"; L. W. Segoe, Special Engineer, on "Traffic Studies and the Western Hills Viaduct"; and J. E. Root, Special Engineer, on "Contracts and the Construction Program". Attendance 240.

Colorado.—January 11, 1929. A Joint Meeting of the Section with the Denver Section of the American Institute of Electrical Engineers and the Colorado Section of the American Society of Mechanical Engineers was held at the University Club in Denver. Following a dinner, Frank P. McKibben, Consulting Engineer, of Black Gap, Pa., gave an instructive illustrated talk on "Electric Welding of Steel Bridges and Buildings". A general discussion followed. The attendance at dinner was 176 and at the meeting, 210.

Dayton.—January 14, 1929. The topic for discussion at this meeting of the Section was the paper on "Dayton's New Bridge Program", presented at the December Meeting. This discussion was conducted informally. Attendance 40.

February 11, 1929. A film entitled "The Upper Carnegie Building", which was loaned to the Section by the Lincoln Electric Company, was shown at

* For list of Local Section Officers, Rules, etc., see 1928 Year Book, p. 46.

this meeting. The film illustrated the arc-welding process recently developed for use in framing steel buildings. The Section was invited to attend the exhibit of the Local Chapter of the American Institute of Architects at the Art Institute and also the meeting of the Society for the Promotion of Engineering Education, Ohio Section. Attendance 35.

Georgia.—February 4, 1929. At the meeting of the Section held at the Atlanta Athletic Club, in Atlanta, Searcy B. Slack, Bridge Engineer for the State Highway Department, gave an illustrated talk entitled, "Recent Arch Bridge Tests". Following this discussion, moving pictures were shown of "America's Greatest Bridge Test", furnished by the U. S. Department of Agriculture. This picture covered the operation of tests made in 1928 on the Swift Island Bridge across the Pee Dee River in North Carolina. These tests were conducted by the U. S. Bureau of Public Roads in conjunction with the North Carolina State Highway Department. Attendance 43.

Illinois.—January 28, 1929. The Annual Meeting of the Section was held at the Engineers' Club, in Chicago. Various communications and reports were read, relative to local business, after which the following officers were elected for 1929: President, Rufus W. Putnam; First Vice-President, Willis J. Dean; Second Vice-President, Paul Hansen; Secretary, Walter G. Zimmermann; Treasurer, Caspar W. Haupt; and Past-President and Member of Executive Committee, Jerome A. Moss. A report of the recent Annual Meeting of the Society held in New York City was given by Mr. A. J. Hammond. The retiring President of the Section then offered a statement of his appreciation for the generous support which he had received during the past year. Attendance 42.

Iowa.—January 29, 1929. A regular meeting of the Section was held in Des Moines. Edgar S. Nethercut, Secretary of the Western Society of Engineers, addressed the meeting on "The Engineering Profession, Its Organization and Problems". Anson Marston, President, Am. Soc. C. E., was presented with a gavel of beautiful and unique design, as a testimonial of the Section's regard for him and of its sincere appreciation of the honor brought by him to the Iowa Section, as a result of his recent election as President of the Society. Attendance 32.

Kansas (State).—The following officers of the Section have been elected for 1929: President, Charles Henry Scholer; Vice-President, Harold Malcolm Swope; and Secretary-Treasurer, Frederick William Epps.

Los Angeles.—February 13, 1929. At a regular meeting of the Section held at the Engineers' Club, Mr. Manly P. Hall, nationally known lecturer and writer on philosophical and historical subjects, spoke on the matter of primitive modes of transportation as still practiced in many lands. A "Symposium on Transportation" followed, which was opened by Franklin D. Howell, General Manager of Motor Transport Corporation, who discussed the development of motor-bus transportation. W. R. Armstrong, General Superintendent of the Union Pacific System, told of problems of the steam and electric lines and of the increasingly large capital expenditures required in order to reduce

operating costs. G. F. Nicholson, Harbor Engineer of Los Angeles, described the latest ideas in harbor terminal construction, especially the method evolved for quick handling of freight to either cars or to motor trucks. R. C. Diggins, Traffic Development Manager of Maddux Air Lines, then concluded the program with a review of the latest development of the airplane routes.

Miami.—March 2, 1929. At a recent meeting of the Section held at the Broward Hotel, at Fort Lauderdale, Fla., the following officers were elected for 1929: President, R. W. Reed; Secretary, J. P. Duffy; and Directors, M. B. Garriss, M. R. Kays, and R. H. Wilson.

Northeastern.—January 26, 1929. The Eighth Annual Meeting of the Section was held at the Engineers' Club, Boston, Mass. Following a luncheon a business meeting was held at which the officers of the Section for 1929 were elected. Director Harrison P. Eddy spoke on "Activities of the Society and of the Board of Direction", after which Mr. Ralph O. Spofford discussed "The Development of Highway Bridges in Massachusetts". He showed many views of bridges in the State ranging from the primitive log across the brook to the present modern types in use by the State Department. Attendance 63.

Oklahoma.—February 2, 1929. A luncheon meeting of the Section was held at the Chamber of Commerce rooms in Oklahoma City. Local business matters were transacted. Attendance 14.

San Francisco.—December 18, 1928. A regular dinner meeting of the Section was held at the Engineers' Club. Various business matters were transacted and annual reports of committees presented, followed by the election of officers for 1929. The technical program comprised a discussion of the "Preliminary Plans for the Suisan Bay Bridge of the Southern Pacific Company", and was presented by George W. Rear, Engineer of Bridges, for this Company. A discussion concluded the meeting. The attendance at the dinner was 125 and at the meeting, 130.

Western Washington.—February 4, 1929. The Annual Meeting of the Section was held at the Engineers' Club in the Arctic Building, Seattle. A dinner preceded the transaction of various business matters, among which was the election of the following officers for 1929: President, H. C. Fiske; Vice-President, E. L. Strandberg; and Secretary-Treasurer, Thomas D. Hunt. Resolutions were passed extending thanks to the retiring Director of the District, Mr. E. G. Taber, and congratulations to Maj. Joseph Jacobs on his election to the office of Director for District No. 12. A resolution relative to the presentation before the State Legislature of a draft for the regulation of the practice of professional engineering and land surveying was also acted upon favorably. Attendance 30.

Engineering Societies Library

The services of the Engineering Societies Library are available to all members who wish searches, copies, translations, etc., or advice on technical literature. A collection of modern books is also available for loan to members in North America, at moderate rentals. Correspondence should be addressed to the Director, Engineering Societies Library, 29 West 39th Street, New York, N. Y., who will gladly give information concerning the charges for the various kinds of work. A more comprehensive statement in regard to this matter will be found on pages 71 and 72 of the Year Book for 1928.

Book Notices*

(February 1 to February 28, 1929)

Bridge and Structural Engineers' Handbook. By Adam Hunter. Second Edition. Lond., E. & F. N. Spon; N. Y., Spon & Chamberlain, 1928. 345 pp., diagrams, tab., 9 x 5 in., cloth. 21s.

This desk reference book, giving the formulas and data commonly needed by the designer in the form most convenient for office use, embodies the results of long practical experience in construction.

Civil Engineering. By W. A. Mitchell. N. Y., John Wiley & Sons, 1928. 718 pp., illus., diagrams, tab., 9 x 6 in., fabrikoid. \$6.00.

This textbook, for use at the U. S. Military Academy, covers the elementary principles—mechanics of engineering, building materials, components of structures, and engineering structures. The treatment is necessarily brief, but affords an understanding of practical requirements.

Engineering English. By John Hubert Scott. N. Y., John Wiley & Sons, 1928. 321 pp., 9 x 6 in., cloth. \$2.75.

This unusual course in composition is carefully planned to train the student to express his ideas accurately and correctly, in a pleasing manner. Due attention is given to matters of mechanical form, and much general information on the correct use of English is included.

Strength of Materials. By Jasper Owen Draffin. N. Y., John Wiley & Sons, 1928. 275 pp., illus., port., diagrams, tab., 9 x 6 in., cloth. \$3.00.

This textbook aims to meet the needs of engineering students who have not studied the calculus. It will enable them to make a reasonable estimate of the resistance of a structural part to loads, and to develop this estimate from the principles of equilibrium and a knowledge of materials.

Strength of Materials. By Alfred P. Poorman. Second Edition. N. Y., McGraw-Hill Book Co., 1929. 343 pp., diagrams, tab., 9 x 6 in., cloth. \$3.00.

This new edition has additional matter on sudden and impact loads on beams, riveted joints, timber beams, and columns, and on safe stresses for timber.

What Engineers Do; An Outline of Construction. By Walter D. Binger. N. Y., W. W. Norton & Co., 1928. 259 pp., illus., 8 x 5 in., cloth. \$2.75.

Not only boys, but also many adults, will be interested in this popular account of the work of the civil engineer. It tells how bridges and buildings, highways and railroads are built, how land is surveyed and mapped, how floods are controlled and water is utilized.

Additions to the Reading Room

The Elements of Practical Mechanics. By Charles Ronald MacInnes. N. Y., D. Van Nostrand Co., Inc., 1929. 6 x 131 pp., diagrams, 9 x 6 in., cloth. \$2.25.

As a textbook this covers the ground of ordinary Engineering Mechanics most concisely. Emphasis is placed on graphical, in conjunction with analytical, methods. In such a brief study the inclusion of several hundred well-chosen problems is noteworthy.

* The statements made in these notices are taken from the books themselves, and this Society is not responsible for them. Unless otherwise specified, the books in this list have been donated by publishers.

Current Civil Engineering Literature

Key to Abbreviated References to Publications Indexed*

Abbreviated References.	Publication.	Place.
Am. C. Inst.	American Concrete Institute, <i>Proceedings</i> (Y.)	Detroit
A. I. E. E.	American Institute of Electrical Engineers <i>Journal</i> (M.)	New York
A. R. E. A.	American Railway Engineering Association, <i>Proceedings</i> (Y.)	Chicago
A. S. T. M.	American Society for Testing Materials, <i>Proceedings</i> (Y.)	Philadelphia
Am. Soc. C. E.	American Society of Civil Engineers, <i>Proceedings</i> (M.)	New York
Am. Soc. Mun. Impvts.	American Society for Municipal Improvements, <i>Proceedings</i> (Y.)	New York
Am. W. W. Assoc.	American Water Works Association, <i>Journal</i> (M.)	Baltimore
Am. Wood Pres. Assoc.	American Wood Preservers Association, <i>Proceedings</i> (Y.)	Chicago
Ann. P. et C.	Annales des Ponts et Chaussées (Bl-M.)	Paris
Ann. T. P. Belg.	Annales des Travaux Publics de Belgique (Bl-M.)	Brussels
Assoc. Ing. Gand.	Annales de l'Association des Ingénieurs sortis des Ecoles Spéciales de Gand (Q.)	Ghent
Bost. Soc. C. E.	Boston Society of Civil Engineers, <i>Journal</i> (M.)	Boston
Can. Engr.	Canadian Engineer (W.)	Toronto
City Plan.	American City Planning Institute (Q.)	Boston
Comwlth. Engr.	Commonwealth Engineer (M.)	Melbourne
Conc.	Concrete (M.)	Chicago
Cornell C. E.	Cornell Civil Engineer (M.)	Ithaca
Dock & Harbour.	Dock and Harbour Authority (M.)	London
Eng.	Engineering (W.)	London
Eng. & Contr.	Engineering and Contracting (M.)	Chicago
Eng. Inst. Can.	Engineering Institute of Canada, <i>Journal</i> (M.)	Montreal
Eng. N. R.	Engineering News-Record (W.)	New York
Engr. Soc. W. Pa.	Engineers' Society of Western Pennsylvania, <i>Journal</i> (M.)	Pittsburgh
Engr.	Engineer (W.)	London
Engrs. & Eng.	Engineers and Engineering, Engineers' Club of Philadelphia (M.)	Philadelphia
Gas und Wasser.	Gas und Wasserfach	Munich
Gen. Civ.	Le Génie Civil (W.)	Paris
Gesund. Ing.	Gesundheits Ingenieur (W.)	Munich
Inst. C. E.	Institution of Civil Engineers Minutes of Proceedings (Q.)	London
Inst. Mun. & Co. Engrs.	Institution of Municipal and County Engineers, <i>Journal</i> (W.)	London
Int. Ry. Cong. Assoc.	International Railway Congress Association, <i>Bulletin</i> (M.)	Brussels
Land. Arch.	Landscape Architecture (Q.)	Boston
Mech. Eng.	Mechanical Engineering (M.), <i>Journal of the American Society of Mechanical Engineers</i>	New York
Mil. Engr.	Military Engineer (Bl-M.)	Washington
Min. & Metal.	Mining and Metallurgy (M.), American Institute of Mining Engineers	New York
Mun. N. & W. W.	Municipal News & Water Works (M.)	Chicago
N. E. W. W. Assoc.	New England Water Works Association, <i>Journal</i> (Q.)	Boston
N. Y. R. R. Club.	New York Railroad Club, <i>Proceedings</i> (M.)	Brooklyn
Oest. Ing. Arch. Ver.	Oesterreichischer Ingenieur und Architekten Verein, <i>Zeitschrift</i> (F.)	Vienna
Power	Power (W.)	New York
Public W.	Public Works (M.)	New York
Rev. Gen.	Revue Générale des Chemins de Fer (M.)	Paris
Ry. Age.	Railway Age (W.)	New York
Ry. Eng. & Main.	Railway Engineering and Maintenance (M.)	Chicago
R. & S.	Roads and Streets (M.)	Chicago
Schw. Bauz.	Schweizerische Bauzeitung (W.)	Zurich
Sci. Am.	Scientific American (M.)	New York
Soc. Ing. Civ. Fr.	Société des Ingénieurs Civils de France, <i>Mémoires et Comptes Rendus</i> (Q.)	Paris
Tech. Gemein.	Technisches Gemeindeblatt (F.)	Berlin
Ver. deu. Ing.	Verein deutscher Ingenieure, <i>Zeitschrift</i> (W.)	Berlin
West. Constr. N.	Western Construction News (F.)	San Francisco
West. Ry. Club.	Western Railway Club, <i>Proceedings</i> (M.)	Chicago
West. Soc. Engrs.	Western Society of Engineers, <i>Journal</i> (M.)	Chicago
Zeit. Bau.	Zeitschrift für Bauwesen (Q.)	Berlin
Z. d. Bauver.	Zentralblatt der Bauverwaltung (W.)	Berlin

* Y = Yearly; Q = Quarterly; M = Monthly; F = Fortnightly; W = Weekly.

B. Applied Mechanics**a. Mechanics of Solids (Strength of Materials)****1. Processes of Measurement and Methods of Testing**

Progress Report of the Special Committee on Steel Column Research.* Am. Soc. C. E. Feb., '29.

2. Elastic Solids

Untersuchung des teilweise unterhöhlten, sonst gleichmässig elastisch unterstützten Trägers.* (Investigation of a Beam with Part of the Support Removed, but Otherwise Uniformly Supported Elastically.) B. Stecher. Zelt. Bau. Dec., '28.

5. Homogeneous Inelastic Solids

Le Degré d'Hyperstaticité des Portiques à Cellules Rectangulaires.* (The Degree of Hyperstaticity of Spans with Rectangular Bays.) R. E. Steinsberg. Gen. Civ. Jan. 12, '29.

6. Heterogeneous Solids (Reinforced Materials)

Combined Bending and Direct Stresses in Reinforced-Concrete Members.* Leslie Turner. Eng. Jan. 18, '29.

b. Hydraulics**1. Processes of Measurement**

Notes on the Theory and Design of Fluid Flow Meters and the Conditions Under Which They Operate. C. A. Cameron. Comwth. Engr. Jan., '29.

3. Industrial Hydraulics

Later Achievements of Engineers on the Lower Susquehanna—Harnessing the River.*

Boyd Ehle. Cornell C. E. Jan., '29.

Changes in Flow Over Niagara Falls in Prospect.* Eng. N. R. Feb. 14, '29.

Pumped-Storage Hydro-Electric Plants.* Discussion: John R. Freeman and H. Alden Foster. Am. Soc. C. E. Feb., '29.

Silting of the Lake at Austin, Texas.* Discussion: T. U. Taylor. Am. Soc. C. E. Feb., '29.

Die Grosswasserkraftanlage am Shannon. Die maschinellen Einrichtungen.* (The Great Water Power Plant on the Shannon. Mechanical Arrangements.) L. Reichard and Fr. Wiener. Ver. deu. Ing. Dec. 29, '28.

Kraftanlage für die Zementfabrik Unterterzen der Schweiz. Zementindustrie-Gesellschaft Heerbrugg.* (Power Plant for the Unterterzen Cement Plant of the Schweiz. Zementindustrie-Gesellschaft Heerbrugg.) A. Sonderegger. Schw. Bauz. Jan. 5, '29.

4. Dams

Safety of Dams. Paul E. Reames. West. Constr. N. Jan. 25, '29.

Baffle-Pier Experiments on Models of Pit River Dams.* Discussion: I. C. Steele and R. A. Monroe. Am. Soc. C. E. Feb., '29.

Hydrostatic Uplift in Pervious Soils. Discussion: H. de B. Parsons. Am. Soc. C. E. Feb., '29.

c. Pneumatics**2. Physical Pneumatics**

Final Report of the Committee of the Structural Division on Florida Hurricane. Discussion: David A. Molitor. Am. Soc. C. E. Feb., '29.

C. Materials of Construction and General Processes**a. Lime, Cement, Mortar, Concrete, Brick, Bitumen, Timber, Gravel, etc.**

Possibilities for Reinforced Brickwork.* L. B. Lent. Eng. N. R. Feb. 21, '29.

c. Preservation and Use of Materials, Painting, Waterproofing

Absorption of Wood Preservatives.* J. D. MacLean. Eng. N. R. Jan. 31, '29.

Leinöl als Steinschutzmittel.* (Linseed Oil as Protection for Stone.) Karl Zahn. Z. d. Bauver. Jan. 16, '29.

f. Rock Excavation, Mining, Rock Removal

Abstracts of Institute Publications. (A. I. M. E.) Min. & Metal. Jan., '29.

Abstracts of Institute Publications. (A. I. M. E.) Min. & Metal. Feb., '29.

g. Execution of Works, Specifications**1. Of Masonry**

What Is Efflorescence? L. A. Palmer. Ry. Eng. & Main. Feb., '29.

2. Of Concrete

Effect of Temperature on the Strength of Concrete.* C. C. Wiley. Eng. N. R. Jan. 31, '29.

Rapid Winter Construction on a Hydro-Electric Plant.* Eng. N. R. Feb. 21, '29.

4. Of Metal

Economical Form System for Joisted Floor in Bank Building.* A. F. Klein and Geo. A. Zak. Conc. Jan., '29.

The Design of Tall Building Frames to Resist Wind.* Discussion: H. W. Bolin. Am. Soc. C. E. Feb., '29.

5. Of Reinforced Concrete

L'Eglise en Béton Armé de la Cité-Jardin d'Elisabethville, près de Mantes (Seine-et-Oise).* (The Reinforced Concrete Church of the Garden City Elisabethville, near Mantes (Seine-et-Oise).) Gen. Civ. Jan. 5, '29.

Schubspannungsversuche an Eisenbetonbalken. (Shearing Stress Tests on Reinforced Concrete Beams.) Luz. David. Z. d. Bauver. Jan. 16, '29.

h. Foundations, Bridge Piers and Abutments

Geophysical Methods for Subsoil Studies in Foundation Work.* Eng. N. R. Feb. 14, '29.

k. Tunnels and Tunneling-Shields

- Engineering Geology as Applied to Location of Tunnels and Dams.* Bost. Soc. C. E. Jan., '29.
 Great Northern Breaks Records in Tunnel Project.* Ry. Age Jan. 26, '29.
 Progress on Hetch Hetchy Water Supply Tunnels.* Eng. N. R. Jan. 31, '29.
 Great Northern Tunnel Through Cascades.* Frederick Mears. Mil. Engr. Jan.-Feb., '29.
 Vorausbestimmung der Gesteintemperatur im Innern eines Gebirgsmassivs.* (Predetermination of the Rock Temperature within a Mountain.) Konrad Pressel. Schw. Bauz. Jan. 26, '29.

D. Highways**c. Construction**

- Economy of Good Workmanship in Road Construction.* A. C. Tregoning. Comwth. Engr. Dec., '28.
 Sand-Asphalt Construction on State Highways in Delaware.* W. E. Rosengarten. R. & S. Jan., '29.
 Practical Application of the Shear Test to Bituminous Mixtures.* Hugh W. Skidmore. (Paper read before Annual Asphalt Paving Conference.) R. & S. Jan., '29.
 Asphaltic Pavement Construction in the City of Pittsburgh, Pa. J. J. Paine. (Paper read before Annual Asphalt Paving Conference.) Mun. N. & W. W. Jan., '29.
 The Economics of Asphalt Pavement Construction. T. Warren Allen. (Paper read before Asphalt Paving Conference.) R. & S. Jan., '29.
 Paving Major Arterial Highways at San Diego, California.* E. L. Freeland. R. & S. Jan., '29.
 Developments in the Use of Tar in Highway Construction.* Walter Buehler. (Paper read before Am. Soc. Mun. Impvts. R. & S. Jan., '29.
 Connecticut Modernizes a Mountain Road.* Conc. Jan., '29.
 Asphaltic Limestone Surface on Old Gravel Road.* J. H. Mayer. Public W. Jan., '29.
 Recent Developments in Highway Design.* A. G. Bruce. Public W. Jan., '29.
 Progress in Road Construction Methods and Equipment During 1928.* C. N. Conner. Public W. Jan., '29.
 Design of Concrete Pavement Mixes.* Paul E. Kressly. Conc. Jan., '29.
 Design and Construction of Pavements. Geo. B. Sowers. (Paper read before Am. Road Bldrs. Assoc.) Can. Engr. Jan. 22, '29.
 Building Wide Boulevards in San Francisco.* L. B. Cheminant. Eng. N. R. Jan. 31, '29.
 L'Emulsion de Bitume et la Fabrication par les Services Routiers en Ile-et-Vilaine.* (Bitumen emulsion and its Manufacture for the Highway Department in Ile-et-Vilaine.) Ann. T. P. Belg. Dec., '28.
 Les Routes en Béton. Recherches sur la Composition du Béton pour Route.* (Concrete Highways. Experiments on the Composition of Concrete for Highways.) R. Dutron. Ann. T. P. Belg. Dec., '28.

d. Maintenance

- Georgia Highway Maintenance.* J. F. Coleman. Public W. Jan., '29.

g. Machinery and Tools

- Recent Developments in Methods of and Equipment for Maintenance of Highways.* Harry J. Kirk. Public W. Jan., '29.

h. Vehicles, Automobiles, Traffic

- How New York City Uses Statistics for Accident Prevention. Philip D. Hoyt. (From paper read before Nat'l Safety Cong.) Mun. N. & W. W. Jan., '29.
 Basic Highway Data Obtained for Cleveland Regional Area.* Eng. N. R. Jan. 24, '29.

E. Bridges, Viaducts and Arches**b. Iron and Steel Bridges and Viaducts**

- Construction of New Viaducts in Victoria.* W. D. Chapman. Comwth. Engr. Jan., '29.
 The Reconstruction of Holt Fleet Bridge, Worcestershire.* Eng. Jan. 11, '29.
 The Khartoum-Omdurman Bridge.* Engr. Feb. 1, '29.
 The Reconstruction of the Wearmouth Bridge, Sunderland.* Eng. Feb. 8, '29.
 Die erste geschweißte Eisenbahn-Fachwerk-Brücke, Chicopee-Falls, Mass.* (The First Welded Railroad Bridge, Chicopee Falls, Mass.) Otto Bondy. Schw. Bauz. Jan. 12, '29.

d. Concrete and Reinforced Concrete Bridges and Viaducts

- Single-Span Reinforced-Concrete Bridges of Rigid-Frame Design.* M. G. Dempster. Comwth. Engr. Dec., '28.
 A Pre-cast Seven Mile Bridge.* Charles W. Geiger. Sci. Am. Feb., '29.
 Die Muldenbrücke bei Freiberg in Sachsen.* (The Mulden Bridge at Freiberg in Saxony.) Kluge. Z. d. Bauver. Jan. 23, '29.

f. Tree Planting

- Suspension Bridge Tower Erection at Detroit by Creeper-Traveler.* Lloyd L. Martin. Eng. N. R. Jan. 31, '29.
 Le Pont Suspendu de Steubenville (Etats-Unis).* (The Steubenville (U. S. A.) Suspension Bridge.) P. Caufourier. Gen. Civ. Jan. 5, '29.

g. Swing, Bascule, Lift, Floating, Oscillating Bridges, Travelling Cranes

- Designers Differ With Board on Bridge Failure Report.* Eng. N. R. Feb. 14, '29.

h. Computations, Tests, etc.

- Continuous Beams Over Three Spans.* Discussion: R. A. Caughey, John B. Snethlage, and T. D. Mylrea. *Am. Soc. C. E. Feb.*, '29.
 Impact on Railway Bridges.* *Eng. Serial* beginning Feb. 1, '29.
 Design and Construction of Highway Bridges With Special Reference to Floors and Deckings.* H. A. Mackrill. *Inst. Mun. & Co. Engrs. Feb. 5*, '29.

F. Inland Waters and Waterways

a. Natural Waterways (General Articles)

- Geology and Improvement on Osage River.* F. Y. Parker. *Mil. Engr. Jan.-Feb.*, '29.
 Das Luftbild im Flussbau.* (Aerial Photography in River Work.) Walter Sperling. *Z. d. Bauver. Jan. 2*, '29.
 Polnische Wasserstrassen.* (Polish Waterways.) *Z. d. Bauver. Jan. 9*, '29.

b. Canals (General Articles)

- The Isthmian Canal Situation.* Discussion: William B. Landreth and Eduardo Icaza. *Am. Soc. C. E. Feb.*, '29.

c. Regulation of Waterways, Volumes of Discharge, Freshets, Floods, Soundings

- Flood Control on the Sacramento.* J. Franklin Bell. *Mil. Engr. Jan.-Feb.*, '29.
 Levee Construction Along the Mississippi River.* W. A. Hardenbergh. *Public W. Jan.*, '29.
 Chicago Sanitary District Must Stop Diversion of Lake Michigan for Sewage Disposal. *Eng. N. R. Jan. 24*, '29.

d. Diverting Dams, Locks, Lifts, Elevators, Inclined Planes

- Progress of Tests and Designs of Bonnet Carre Spillway. *Eng. N. R. Feb. 14*, '29.

g. Consolidation of Banks, Leakage, Maintenance of Channel, Dredging

- The Task of Taming the Big Muddy.* H. L. Robb. *Mil. Engr. Jan.-Feb.*, '29.
 Observations on Levee Plant, Methods and Prices.* Arthur M. Shaw. *Eng. N. R. Feb. 21*, '29.

G. Maritime Works

a. Behavior of Movements of the Ocean, Winds, Waves, Tides, Currents

- The Tidal Work of the Coast and Geodetic Survey.* Paul C. Whitney. *Cornell C. E. Jan.*, '29.

g. Dredges and Dredging, Force Pumps, Refloating and Removing Wrecks, Ice-Breakers

- Submarine Blasting in the Miami Ship Channel.* C. J. O'Neill. (*From Du Pont Magazine.*) *Eng. & Contr. Feb.*, '29.

h. Wharves, Mooring Buoys, Harbor Equipment

- Die Wirtschaftlichkeit eingeschossiger Umschlagsschuppen im Hamburger Hafen.* (The Economy of Enclosed Transfer Sheds in Hamburg Harbor.) Arved Boile. *Z. d. Bauver. Jan. 9*, '29.
 Versuche mit Drahtseilen und Seilscheibenlagern für das Schiffshebewerk Niederfinow.* (Experiments with Wire Cables and Cable Pulley Bearings for the Niederfinow Ship Elevator.) A. Freund. *Ver. Deu. Ing. Jan. 19*, '29.

i. Harbors

- Latest Facilities at the Port of Havre.* Roger Vever. *Dock & Harbour Jan.*, '29.
 The Port of Civitavecchia.* Silvio Lomazzi. *Dock & Harbour Feb.*, '29.
 Port Marghera: The Industrial Harbour of Venice.* Roy S. MacElwee. *Dock & Harbour Feb.*, '29.

H. Railroads, Street and Interurban Railways, Automobiles, Aeronautics

a. Railroads

1. General Articles

- Coopération entre Chemin de Fer et Automobile.* (Cooperation between Railroad and Automobile.) *Rev. Gen. Jan.*, '29.
 Die Panamerikanische Eisenbahn.* (The Pan-American Railroad.) Röpneck. *Ver. deu. Ing. Dec. 29*, '28.

4. Track

- Note on the Calculation of Rails in Relation to High Train Speeds.* Felice Corini. *Int. Ry. Cong. Assoc. Dec.*, '28.
 Wood, Metal, and Reinforced Concrete Sleepers, Compared.* Vincent. (*From L'Industrie des Voies Ferrées des Transports Automobiles.*) *Int. Ry. Cong. Assoc. Dec.*, '28.
 Note on the Inverted Segregation Observed in Certain Rails.* Albert Portevin. (*From Revue Universelle des Mines.*) *Int. Ry. Cong. Assoc. Dec.*, '28.
 The Inverted Macrostructure in Certain Lots of Rails.* E. Dercherf. (*From Revue Universelle des Mines.*) *Int. Ry. Cong. Assoc. Dec.*, '28.
 Making Timber Last Longer.* (Papers read before Am. Wood Prs. Assoc.) *Ry. Eng. & Malm. Feb.*, '29.
 Eine Verbundschwelle für Eisenbahngleise.* (A Compound Sleeper for Railway Tracks.) *Z. d. Bauver. Jan. 9*, '29.

5. Signals and Safety Apparatus

- Traffic Facilitated by Signals on the Missouri Pacific.* Ry. Age Jan. 26, '29.
 Meeting the Challenge of the Highways.* Ry. Eng. & Main. Feb. '29.
 Texas & Pacific Saves 30 Minutes Per Train.* Ry. Age Feb. 2, '29.
 Solving the Country's Most Acute Grade Crossing Problem.* Ry. Age Feb. 9, '29.
 Automatic Protection for Gauntlet Track on the L. & N.* Ry. Age Feb. 16, '29.

6. Rolling Stock

- Electric Passenger Locomotive for the Great Indian Peninsula Railway.* Eng. Serial beginning Jan. 25, '29.
 4000 H. P. Locomotives on the Loetschberg Tunnel Railway.* Engr. Jan. 25, '29.
 Canadian Pacific Builds Two 4-8-4 Type Locomotives.* Ry. Age Feb. 2, '29.
 Northern Pacific Builds New Dynamometer Car.* Ry. Age Feb. 9, '29.
 Problems Concerning Locomotive Fuel. W. L. Robinson. (From paper read before Int. Conference on Bituminous Coal.) Ry. Age Feb. 16, '29.
 Nouveaux Tenders des Machines de Trains Rapides de la Compagnie du Nord.* (New Tenders of the Express-Train Engines of the Compagnie du Nord.) Cossart. Rev. Gen. Jan., '29.
 Les Automotrices à Moteurs Diesel et à Transmission Electrique du Chemin de Fer de Pampelune à Saint-Sébastien.* (The Diesel-Engine Electrical-Transmission Motor Cars of the Pampelune-Saint Sébastien Railroad.) Gen. Civ. Jan. 19, '29.
 Locomotive Compound à Vapeur à 60 Kg. Système Schmidt. (The Schmidt System Compound Locomotive for 60-Kg Steam.) Gen. Civ. Jan. 26, '29.
 Die Schmidt-Hochdrucklokomotive. Die bisherigen Versuchsergebnisse.* (The Schmidt High Pressure Locomotive. Experimental Results to Date.) H. Nordmann. Ver. deu. Ing. Dec. 29, '28.

8. Stations, Terminals, Engine Houses, Shops

- Reconstruction of the Gare de l'Est, Paris.* (From *Modern Transport*.) Int. Ry. Cong. Assoc. Dec., '28.
 Twin-Span Turntable at Ararat, Victoria.* Comwith. Engr. Dec., '28.
 The Spot System of Repairing Freight Cars on the Baltimore & Ohio Railroad.* (From *Railway Mechanical Engineer*.) Int. Ry. Cong. Assoc. Dec., '28.
 The Use of Railway Labor-Saving Machinery. C. A. Morse and J. B. Mabille. West. Soc. Engrs. Jan., '29.
 Rock Island Improves Commissary Organization and Facilities. Ry. Age. Jan. 26, '29.
 Baltimore & Ohio Opens New Motor Coach Terminal.* Ry. Age (Second Section). Jan. 26, '29.
 Rock Island Keeps Eye on Material Waste.* Ry. Age Feb. 9, '29.
 Better Operation, Better Maintenance, Less Overtime.* Ry. Age Feb. 9, '29.
 Les Nouveaux Bâtiments des Gares de la Baule & de Capdehac.* (The New La Baule and Capdehac Station Buildings.) Sevin. Rev. Gen. Jan., '29.
 Betriebsöffnung des Bahnhof "Ausstellung" in Berlin.* (Opening the Station "Exhibit" in Berlin.) Remy. Z. d. Bauver. Dec. 26, '28.
- 9. Technical and Commercial Use**
 Chicago Freight Speeded Up By Underground Railroad.* Ry. Age Jan. 26, '29.
 Rock Island Finds Tractors and Trailers Valuable.* Ry. Age (Second Section). Jan. 26, '29.

c. Automobiles

- x. Miscellaneous**
 Les Salons Européens de l'Automobile en 1928.* (European Automobile Exhibitions in 1928.) G. Delange. Gen. Civ. Serial beginning Jan 12, '29.

f. Aeronautics

- 1. General Articles**
 Aviation as a New Factor in Transportation.* W. G. Herron. Eng. N. R. Feb. 7, '29.
 Wirtschaftlichkeit und Aussichten des Luftschiff-Verkehrs.* (Economics and Prospects of Airship Transportation.) W. E. Dorr. Schw. Bauz. Dec. 29, '28.
- 4. Aerodromes and Landing Fields**
 Developments in Airway and Airport Lighting.* R. W. Cost. West. Soc. Engrs. Jan., '29.

I. Municipal Water-Works. Agricultural Engineering. Irrigation**a. General Articles**

- Evaluation of Water Rights. Discussion: C. E. Grunsky. Am. Soc. C. E. Feb., '29.

b. Hydrology, Water Resources

- Die Wasserversorgung aus der Muldentalsperre.* (The Water Supply from the Mulden Storage Reservoir.) Herzner. Gas und Wasser. Serial beginning Dec. 1, '28.
 Die Zukunft der Berliner Wasserversorgung.* (The Future of the Berlin Water Supply.) Alfred von Feilitzsch. Gesund. Ing. Dec. 8, '28.

c. Dams and Reservoirs

- The Design of the Nepean Dam Spillway.* S. T. Farnsworth. Comwith. Engr. Dec., '28.
 Engineering Geology as Applied to Location of Tunnels and Dams.* Bost. Soc. C. E. Jan., '29.
 The Coolidge Dam in Arizona.* Engr. Jan. 18, '29.
 Construction of Coolidge Dam in Retrospect.* Lynn Atkinson. West. Constr. N. Jan. 25, '29.
 Lafayette Dam, East Bay Municipal Utility District, California. West. Constr. N. Jan. 25, '29.
 Reconstruction of Lafayette Dam Advised.* Eng. N. R. Jan. 31, '29.
 Experiments on Spillway Discharge of the Keokuk Dam.* Floyd A. Nagler and Albion Davis. Am. Soc. C. E. Feb., '29.

- Dam Construction and Design.* Thaddeus Merriman. Eng. N. R. Feb. 7, '29.
 Report on the Proposed Heightening of the Aswan Dam.* Engr. Feb. 8, '29. Eng. Feb. 8, '29.
 Raising of Aswan Dam in Egypt Proposed.* Eng. N. R. Feb. 14, '29.
 Spillway Cut Rushed to Safeguard Lake Pleasant Dam.* Eng. N. R. Feb. 14, '29.
 High-Speed Construction Methods at Pardee Dam.* C. E. Grunsky. Eng. N. R. Feb. 14, '29.
 Le Barrage Coolidge sur la Gila River (Etats Unis) à Voutes Ovoides Multiples.* (The Coolidge Dam over the Gila River (U. S. A.) with Multiple Ovoid Arches.) P. Cautourier. Gen. Civ. Jan. 19, '29.

d. Analysis and Purification of Water

- Pools and Pools. Arthur M. Crane. Am. W. W. Assoc. Jan., '29.
 Laboratory Tests in Water Works Operation. A. E. Berry. Am. W. W. Assoc. Jan., '29.
 Phosphate in Boiler Water Conditioning. R. E. Hall and Others. Am. W. W. Assoc. Jan., '29.
 The Differentiation of the Coli and Aerogenes Groups of Bacteria. A. J. Salle. Am. W. W. Assoc. Jan., '29.
 Are Your Wells and Reservoirs Contaminated? Harry F. Ferguson and Clarence W. Klassen. Am. W. W. Assoc. Jan., '29.
 Algae Control by Chlorination at Kansas City, Kansas. L. B. Mangun. Am. W. W. Assoc. Jan., '29.
 Design Data for Open Gravity Type Rapid Sand Filters. A. W. Livingston. (From paper read before Texas W. W. School.) Mun. N. & W. W. Jan., '29.
 The Function of Aeration in Water Purification. N. T. Veatch. (Paper read before Texas W. W. Short School.) Mun. & N. W. W. Jan., '29.
 Treating a Low-Hardness Water Saves \$48,000 per Annum.* Ry. Eng. & Main. Feb., '29.
 Zur Frage des biochemischen Abbaues von Phenolen in natürlichen Wassern.* (On the Question of the Bichemical Decomposition of Phenols in Natural Waters.) H. Bach. Gesund. Ing. Dec. 1, '28.

e. Distribution of Water

- Coefficients of Flow in Concrete Pipe.* Fred C. Scobey. Am. W. W. Assoc. Jan., '29.
 Corrosion of Metals in Water Distribution Systems. F. N. Speller and E. L. Chappell. Am. W. W. Assoc. Jan., '29.
 Surface Water in Indiana. Denzil Doggett. Am. W. W. Assoc. Jan., '29.
 The Use of Steel Pipes in the Melbourne Water Supply System.* E. G. Ritchie. Comwith. Engr. Jan., '29.
 Operating Water Distributing System. W. H. Henby. (Paper read before Missouri Conference on Water Purification.) Can. Engr. Jan. 22, '29.

J. Sewerage. Sewage and Refuse Disposal

a. Sewers and Drains

- Storm Sewer Design. J. R. Jahn. West. Constr. N. Jan. 25, '29.
 County Sewer District Work in Ohio and Assessment of Cost According to Benefits. Discussion: F. D. Stewart and W. M. Olson. Am. Soc. C. E. Feb., '29.

b. Sewage Disposal, Purification

- The Sewage Treatment Plant of the Bloomington and Normal Sanitary District.* Charles Carroll Brown. Mun. N. & W. W. Jan., '29.
 Methods of Sludge Disposal for Small Sewage Plants.* Frank Bachmann. Mun. N. & W. W. Jan., '29.
 Sludge Digestion.* Willem Rudolfs. Bost. Soc. C. E. Jan., '29.
 Digesting Sewage Screenings at Milwaukee.* Public W. Jan., '29.
 Ocean Disposal of Sewage. Chester A. Smith. (Paper read before Los Angeles Section Am. Soc. C. E.) West. Constr. N. Jan. 25, '29.
 The Sewage Disposal Works of Decatur, Illinois. Discussion: George W. Fuller and John F. Skinner. Am. Soc. C. E. Feb., '29.
 Disposal of Waste Crank-Case Oil at Garages. Eng. N. R. Feb. 21, '29.
 Theorie und Praxis bei der Schlammausfäulung.* (Theory and Practice of Sludge Digestion.) M. Prüss und H. Blunk. Gesund. Ing. Dec. 1, '28.
 Beitrag zur Frage der Hauskläranlagen. (Contribution to the Question of Domestic Clarification Plants.) O. Herb. Tech. Gemein. Jan. 20, '29.

c. Refuse Disposal

- Routine Records of Collection Service for Refuse Material.* Samuel A. Greeley. (Paper read before Int. Assoc. Street San. Officials.) Mun. N. & W. W. Jan., '29.
 Collection and Disposal of Refuse in Chicago.* Loran D. Gayton. West. Soc. Engrs. Feb., '29.

K. Heat Engines

a. Steam Engines, Boilers

- Le Foreage des Bouilleurs de Chaudières à Très Haute Pression.* (Forging the Tubes of Very High Pressure Boilers.) Ch. Dantin. Gen. Civ. Jan. 26, '29.
 Erzeugung und Verwertung von Hochstdruckdampf. Die Floridsdorfer Löffler-Anlage.* (Generation and Utilization of High Pressure Steam. The Floridsdorf Löffler Plant.) Arno Demmler. Oest. Ing. Arch. Ver. Jan. 4, '29.

b. Steam Turbines

- Tendencies in Steam Turbine Development.* H. L. Guy. Engr. Serial beginning Feb. 1, '29.

L. Electricity

b. Distribution and Transmission of Electricity

2. Long-distance Transmission of Energy

The Construction of the "Grid" Transmission System in Great Britain.* Johnston Wright and C. W. Marshall. (Abstract of paper read before Inst. E. E.) Engr. Feb. 1, '29.

5. Transformers and Converters

Les Tendances Actuelles dans la Construction des Postes de Transformation à Air Libre.* (Present Tendencies in the Construction of Outdoor Transformer Stations.) S. Teszner. Gen. Civ. Jan. 5, '29.

c. Electric Lighting

2. Uses

Developments in Airways and Airport Lighting.* R. W. Cost. Jan., '29.

d. Mechanical Uses of Electricity

3. Welding.

Lichtbogenschweißung von Eisenkonstruktionen.* (Arc Welding of Steel Structures.) J. Kuhnke. Z. d. Bauver. Jan. 23, '29.

x. Miscellaneous

Power the Source of Modern Civilization.* George A. Orrok. Eng. N. R. Feb. 7, '29.

M. Architecture

a. Educational, Government and Scientific Buildings

Regierungsdienstgebäude in Schneidemühl.* (Official Building in Schneidemühl.) Z. d. Bauver. Jan. 2, '29.

Volkshochschulheim in Leipzig-Schleussig.* (Public Hochschule and Dormitory in Leipzig-Schleussig.) Johannes Niemeyer. Z. d. Bauver. Jan. 9, '29.

Der Umbau des Schlosshotels Wilhelmshöhe bei Kassel.* (Rebuilding the Schlosshotels Wilhelmshöhe in Kassel.) Morin. Z. d. Bauver. Jan. 23, '29.

b. Business and Commercial Buildings

Chicago Daily News Building.* Frank E. Brown. West. Soc. Engrs. Jan. '29.

The Fidelity-Philadelphia Building.* Engrs. & Eng. Jan. '29.

Der Neubau der Schweiz. Nationalbank, Basel.* The New Building of the Swiss National Bank, Basle.) Schw. Bauz. Jan. 5, '29.

c. Residences, Hotels

Extension to Chateau Laurier, Ottawa.* Can. Engr. Jan. 22, '29.

Helmatsiedlung Frankfurt a. Main.* (Frankfurt a Main Homes.) Z. d. Bauver. Jan. 16, '29.

Wohnhaus im Waldtobel am Zurichberg.* (House in Waldtobel at Zurichberg.) Schw. Bauz. Jan. 19, '29.

e. Hospitals and Asylums

L'Hôpital Américain de Neuilly-sur-Seine, près de Paris.* (The American Hospital at Neuilly-sur-Seine, near Paris.) Paul Calfas. Gen. Civ. Jan. 12, '29.

g. Other Buildings

World's Largest Hall Seats 40,000 People.* Sci. Am. Feb. '29.

O. Administration. Legislation. Economics. Statistics

b. Economic Questions of a General Character, Valuations, Etc.

Water Power Leases.* William H. Cushman. Am. Soc. C. E. Feb. '29.

Letting Construction Work by Competitive Bidding. Discussion: John C. Wait, Edward W. Stearns, and Richard S. Kirby. Am. Soc. C. E. Feb. '29.

Has Registration of Engineers Accomplished Anything? C. J. Ullrich. Eng. N. R. Feb. 7, '29.

d. Administrative and Financial Management of Means of Communication

2. Routes and Roads.

Economic Comparisons of Various Types of Road Surfacing. A Symposium. Discussion: Arthur R. Hirst. Am. Soc. C. E. Feb. '29.

x. Miscellaneous

Public Works in the Dominican Republic.* John H. Caton, 3rd. Mil. Engr. Jan.-Feb., '29.

e. Legislation—Questions Concerning Wages and Working Conditions

Group Insurance for Municipal Employees.* P. J. Hurtgen. Am. W. W. Assoc. Jan. '29.

P. Geology

The Importance of Geology to Civil Engineering.* H. Ries. Eng. Inst. Can. Jan. '29.

Q. Surveying and Geodesy

- Mapping the City of Chicago.* O. H. Nelson. Mil. Engr. Jan.-Feb. '29.
 Das Luftbildwesen-Bildauswertung.* (Aerial Photography. Using the Picture.) P. Sellger.
 Ver. deu. Ing. Dec. 29, '28.

R. Landscape Engineering

- The Spirit of Design in Planting. Harold T. Patterson. Land. Arch. Jan. '29.
 Relation of the Landscape Architect to the Allied Professions Engaged in City Planning.
 Discussion: Harold M. Lewis and S. Herbert Hare. Am. Soc. C. E. Feb., '29.
 Die Grünanlagen der Stadt Köln.* (The Parks of the City of Cologne.) Theo. Nussbaum.
 Zeit. Bau. Dec. '28.

S. City Planning

- What Zoning Ought to Be.* Wayne D. Heydecker. City Plan. Jan. '29.
 Architecture and the New City.* George B. Ford. City Plan. Jan. '29.
 Reconstruction and Development of the Tokyo-Yokohama District.* J. H. Ehlers. Cornell
 C. E. Jan. '29.
 Town Planning in Relation to the Municipal Engineer. Edward Willis. Inst. Mun. & Co.
 Engrs. Jan. 8, '29.
 Engineering Applied to National Parks. Discussion: H. K. Bishop. Am. Soc. C. E. Feb.
 '29.
 Establishing a Garden City Near Chicago.* Arthur W. Consoer. Eng. N. R. Feb. 21, '29.

Employment Service

The Engineering Societies Employment Service is under the joint management of the National Societies of Civil, Mining, Mechanical, and Electrical Engineers. A Chicago office is maintained in co-operation with the Western Society of Engineers, and a San Francisco office, in co-operation with the Engineers' Club of San Francisco and the California Section of the American Chemical Society. The Service is available only to the several memberships and is maintained by contributions from the Societies and their individual members who are directly benefited.

Officers.—Eastern Office, 31 West 39th Street, New York, N. Y., Walter V. Brown, Manager; Chicago Office, 205 West Wacker Drive, 1216 Engineering Building, Chicago, Ill., A. Krauser, Manager; and San Francisco Office, 57 Post Street, Room 715, San Francisco, Calif., Newton D. Cook, Manager.

Men Available.—Under this heading, brief announcements will be published without charge. These announcements will not be repeated, except on request received after an interval of one month. Names and records will remain in the active files of the Service for a period of three months, and are renewable on request. Notices for *Proceedings* should be addressed to Employment Service, 31 West 39th Street, New York, N. Y., and should be received prior to the first of the month.

Opportunities.—A bulletin of engineering positions available is published weekly and may be obtained by members of the Societies concerned at a subscription rate of \$3 per quarter, or \$10 per annum, payable in advance. Positions which are not filled promptly as a result of publication in the Bulletin, may be announced herein.

Voluntary Contributions.—Members obtaining positions through the medium of this Service are invited to co-operate with the Societies in the financing of the work by nominal contributions made within thirty days after placement, on the basis of 1½% of yearly salary; temporary positions (of one month or less), 3% of total salary received. The income contributed by the members, together with the finances appropriated by the four Societies named, will be sufficient, it is hoped, not only to maintain but to increase and extend the Service.

Replies to Announcements.—Replies to announcements published herein, or in the Bulletin, should be addressed to the key number indicated in each case, with two two-cent stamps attached for re-forwarding, and forwarded to the Employment Service at the address given. Replies received by the Service after the positions to which they refer have been filled, will not be forwarded.

MEN AVAILABLE

PUBLIC UTILITY ENGINEER, M. Am. Soc. C. E.; married. Seventeen years' experience covering design and construction supervision of hydro-electric developments, steam plants, sub-stations, and transmission lines. Investigations, reports, and economic studies of power projects. Condemnation and damage matters. Negotiations, public relations, public speaking. Wants responsible position as executive engineer or special assistant to executive management. A-1137.

CITY PLANNING ENGINEER, Assoc. M. Am. Soc. C. E.; married; trained city planner. Experience in Europe, Canada, and United States. Has been engaged on notable American work and recently held position as executive for 2½ years on large comprehensive plan. Surveys, reports, plans, research, etc. Understands all phases. Location, immaterial. A-1521-85-A-2. SAN FRANCISCO.

CIVIL ENGINEER, M. Am. Soc. C. E., technical graduate; married. Twenty years' engineering experience, extensive surveys, heavy railroad construction, earthwork, bridges. Engineer in charge, valuation, large utility property; extensive street, interurban railway experience. At present, in executive position, large utility property. Will consider opening, railway, industry, contractor, private business. Interview solicited. A-1864.

MANAGER, ENGINEER, LAWYER, Assoc. M. Am. Soc. C. E.; age 38; unusual qualifications. University degree of civil engineer; varied engineering experience. Member, New York Bar; legal experience. Registered patent attorney; experience with experimental and development work. Management experience; five years, consultant in management problems. Now has permanent connection, but seeks broader opportunity. B-1819.

CIVIL ENGINEER, M. Am. Soc. C. E.; age 44. Twenty-three years' varied engineering and executive experience. Eight years in Latin-America, general engineering and construction, investigations and reports on municipal, railway, and hydro-electric projects. Would like connection with engineering firm or banking house interested in Latin-American projects or financing. Speaks, reads and writes Spanish. B-7962.

ENGINEERING EXECUTIVE, M. Am. Soc. C. E. Experienced in various engineering construction. Large oil storage and water reservoirs, dam construction, water-works and sewers. Steel plants and refineries, railroad construction and reconstruction. Has handled more than \$12 000 000 worth of construction in the past five years. Tropical experience. B-9926.

GRADUATE CIVIL ENGINEER, Jun. Am. Soc. C. E.; age 27; married; channel improvement. Railroad engineering, construction, location, Order No. 3, cost accounting. Desires connection with company having foreign operations. Southern or Far Eastern preferred. Railroad construction, location, or maintenance, or other class of transportation work. Long-term contract no drawback. Would consider work in Middle West. Location, immediately. C-2305.

ENGINEER, PROFESSOR, Assoc. M. Am. Soc. C. E.; B. S. C. E., 1922; C. E., 1923; age 30; married. Two years, engineering drawing instructor; total teaching, three years. One year, surveying, construction. Five years, steel industry, analyzing, designing, testing statically indeterminate structures. Desires permanent teaching or research position in mechanics or structural engineering. C-5354.

EXPERIENCED CIVIL ENGINEER, M. Am. Soc. C. E. Forty years, railway and utilities service; design, supervision, and much technical advisory work for use of executives. Desires to connect with public utilities company of size to need such a man. South or Middle West preferred, but not important. Latest engagement nearly seven years; company overbuilt. C-5470.

GAS DISTRIBUTION ENGINEER, M. Am. Soc. C. E.; age 43; married; who also knows manufacture and utilization, open for service immediately in New York or vicinity. Technical graduate with eighteen years' experience in municipal, railway,

and gas engineering, South. Member of American Gas Association. Will furnish references. C-5498.

CONSTRUCTION ENGINEER, Jun. Am. Soc. C. E.; Cornell civil engineering graduate 1926; single. Practical experience of 3½ years on high-class building construction, specializing in foundations; has served in all capacities including superintendent. Speaks French and some Spanish. Prefers foreign location in responsible position as assistant superintendent or job engineer on heavy concrete project. C-5561.

MUNICIPAL ENGINEER; M. Am. Soc. C. E. college; age 42; married. Twenty years' experience; fifteen, chief assistant city engineer; five years, city engineer. Desires position with city, contractor, or consulting engineer. Experience consists of making preliminary surveys, preparation of plans, specifications, construction, street paving, sanitary, storm sewers, water supply system, city surveys. Can furnish best references. C-5579.

CIVIL ENGINEER, Assoc. M. Am. Soc. C. E.; registered structural engineer, State of Illinois; age 42; married. Twenty years' successful practice as civil and consulting engineer on flood control, drainage, highways, highway structures, pavements, and sewers. Thoroughly experienced in reinforced concrete as applied to flood control. Now employed, but wishes change of location. C-5593.

SANITARY ENGINEER, M. Am. Soc. C. E.; M. Am. Soc. Mech. Engrs.; age 39; married. Fourteen years' experience, in design, supervision of construction, operation, research, in connection with activated sludge disposal plant and sludge dewatering. C-5604.

STRUCTURAL ENGINEER, Assoc. M. Am. Soc. C. E.; age 33; married; registered professional engineer, Pennsylvania; formerly officer, Corps of Engineers, United States Army; engineering, arts degrees. Familiar steel, concrete design, statically indeterminate structures, unusual footings, retaining walls, transmission line structures. Estimates, specifications, negotiations. Some sewer work, roads, underground conduits. Supervision of office work, design, drafting, surveys, and construction. C-5626.

MUNICIPAL ENGINEER, Assoc. M. Am. Soc. C. E.; graduate; registered civil engineer; age 37; married. Twelve years' experience; four years, city engineer; remainder, water-works and general building construction, research, concrete mixtures, highways, railroads. Desires position as city engineer or manager, or with consultant. Available reasonable notice. C-5640.

STRUCTURAL ENGINEER, Jun. Am. Soc. C. E.; college graduate; age 26. Three years' teaching, strength of materials, structures, mechanics, and bridge design; one year, detailing bridges, fixed and movable; various miscellaneous design experience; desires position in design department. Location preferred, New York City or vicinity. Available July first. C-5641.

CIVIL ENGINEER, Jun. Am. Soc. C. E.; graduate, Rensselaer Polytechnic Institute; age 25; married. Two years' experience as rodman and instrumentman on topographic surveys. Two years, design and construction, sewers and city pavements. One year, instructor, engineering college. C-5662.

Membership

(From February 6 to March 5, 1929)

Additions

MEMBERS	Date of Membership.
BROWN, Ralph Irving. Civ. Engr., Vertientes Sugar Co., Central Vertientes, Camaguey, Cuba.....	Assoc. M. Jan. 14, 1929
BUIRGY, Joseph McDonald. Engr. and Asst. Mgr. Pueblo Branch, Midwest Steel & Iron Works, 30th and Morris Sts., Pueblo, Colo.	Jun. Oct. 1, 1928
CLARK, Kenneth Allen. 1246 Pratt Boulevard, Apartment 1206, Chicago, Ill.....	Jun. Oct. 1, 1928
CRUSE, Creighton. Civ. Engr. and Surv., R. F. D. No. 4, Hempstead, N. Y.....	Jun. Jan. 15, 1923
	Assoc. M. Aug. 27, 1928
DUNFORD, John Moreland. Care, Am. Bridge Co., Gary Plant, Gary, Ind.....	Jun. Oct. 1, 1928
EVANS, William J. Box 391, Rockingham, N. C.....	Jun. Nov. 12, 1928
FULKERSON, Arthur Thomas. Engr. of Design, Eng. Service Co. (Res., New 422 North Lake St.), Aurora, Ill.....	Assoc. M. Jan. 14, 1929
GLENN, Howard Emmitt. Associate Prof., Civ. Eng., Clemson Agri. Coll., Box 32, Clemson College, S. C.....	Assoc. M. Oct. 1, 1928
GOLDWASSER, Abe Harris. Box 351, Whiteville, Tenn.....	Jun. Oct. 1, 1928
GORMLEY, John Ellis. 43 Chestnut St., Albany, N. Y.....	Jun. Oct. 1, 1928
HART, Robert Gordon. 808 South Ridgeland Ave., Oak Park, Ill.....	Jun. Oct. 1, 1928
HASSLER, Harry John. Asst. Chf. Engr., The H. K. Ferguson Co., Hanna Bldg., Cleveland, Ohio.....	Assoc. M. Aug. 30, 1926
	M. Jan. 14, 1929
HOU, Chia Yuen. Engr., Eastern Hupeh Highways, Sungfu, Hupeh, China.....	Jun. Mar. 7, 1921
HUBBELL, Charles Wheeler. 3938 Euclid Ave., Kansas City, Mo.	Assoc. M. Aug. 27, 1928
	Jun. Oct. 1, 1928
JONES, Richard Frederick, Jr. 22 Evergreen Ave., Hartford, Conn.	Jun. Oct. 1, 1928
JUNG, Werner Fred. Asst. County Highway Engr., Cuyahoga County, 10523 Hathaway Ave., Cleveland, Ohio.....	Jun. Dec. 3, 1928
KAMPE, Morris. Cons. Engr., 25 West 43d St., New York (Res., 1049 East 12th St., Brooklyn), N. Y.....	Assoc. M. Aug. 27, 1928
KAUER, Theodore Joseph. Asst. Engr., State Highway Dept. (Res., 4285 Warner Rd.), Cleveland, Ohio.....	Jun. Nov. 12, 1928
LARRANAGA, Pedro Juan Manuel. Cons. Highway Engr., Calle Schell No. 284, Miraflores, Lima, Peru.....	Assoc. M. Jan. 14, 1929
LARSEN, Johannes Emmanuel. Langkilde. Structural Engr., Am. Gas & Elec. Co., 30 Church St., New York, N. Y. (Res., 547 Argyle Ave., Orange, N. J.).....	Assoc. M. Aug. 27, 1928
LIRA MANSO, Leonardo. Director Engr., Administration of Water Supplies and Sewerage, Casilla 482, Santiago, Chile.....	M. Nov. 12, 1928
LUCAS, John Joseph. Prin. Asst., Rollin F. MacDowell, Cleveland (Res., 2064 Lincoln Ave., Lakewood), Ohio.....	Assoc. M. Aug. 27, 1928
McCULLOUGH, Phillip Morgan. Executive Vice-Pres. and Chf. Engr., Mexican Telephone & Telegraph Co. Av. Flaxcala 203, City of Mexico, Mexico.....	M. Jan. 14, 1929
McDONOUGH, Clarence. Eng. Adviser and Co-Mgr. in France, Belgium, Spain, and Italy, The Foundation Co. (Foreign), Aldwych House, London W.C.2, England.....	M. Jan. 14, 1929
MADDEN, Charles Michael. Section Engr., Board of Transportation, New York (Res., 383 Jay St., Brooklyn), N. Y.....	Assoc. M. Sept. 9, 1919
	M. Jan. 14, 1929
MUNCH, George Del. Concordia, Kans.....	Assoc. M. Jan. 14, 1929
RAINE, William Thorwald. 810 Monroe Ave., South Milwaukee, Wis.	Jun. Oct. 1, 1928
SADLER, Charles Boone. Draftsman, Public Works Office, 11th Naval Dist. (Res., 1723 Granada Ave.), San Diego, Calif.....	Assoc. M. Jan. 6, 1915
	M. Jan. 14, 1929
SCOTT, Guy Robert. 4318 Mercer St., Kansas City, Mo.....	Assoc. M. Jan. 14, 1929
SILVESTON, Barnett. 301 Parent Ave., Windsor, Ont., Canada..	Jun. Mar. 5, 1928
SMITH, Truman Aldrich. 52 North Monterey St., Mobile, Ala....	M. Jan. 14, 1929
SMITH, William Henry. Lt.-Commander, C. E. C. U. S. N.; Asst. Public Works Officer, Naval Operating Base, 11th Naval Dist. (Res., 1984 Guy St.), San Diego, Calif.....	M. Jan. 14, 1929
STEARNS, Philip Beals. 96 Metoxet St., Ridgway, Pa.....	Jun. Oct. 1, 1928
STROMSTED, Finn. Structural Designer, Eng. Dept., Pennsylvania Power & Light Co., 41 North 13th St., Allentown, Pa....	Jun. Mar. 14, 1927
	Assoc. M. Aug. 27, 1928
TANNER, William Sherman. With San. Sewer Dept., City of Dallas, City Hall, Dallas, Tex.....	Assoc. M. Jan. 14, 1929
TIGNOR, Edgar Milton. 507 Keeler Ave., Bartlesville, Okla....	Jun. Oct. 1, 1928
TURPIN, Upshur Farrington. Office Engr., Consoer, Older & Quinlan, Inc., 205 West Wacker Drive, Room 1700, Chicago, Ill. }	Assoc. M. Jan. 18, 1926
	M. Jan. 14, 1929
TUTTLE, Lawrence Samuel. 70 Commonwealth Ave., San Francisco, Calif.....	Jun. Nov. 12, 1928

MEMBERS—(Continued)		Date of Membership.
WATERHOUSE, Charles Eugene. Civ. Engr., 1701 South 12th St., Burlington, Iowa.....	Assoc. M.	Nov. 12, 1928
WRIGHT, Kenneth Crawford. Asst. Chf. Engr., State Road Comm., Room 466 State Capitol, Salt Lake City, Utah.....	Assoc. M. } M.	June 16, 1924 Jan. 14, 1929

Reinstatements

MEMBERS		Date of Reinstatement
PARRIGIN, Frank Snow.....		Mar. 1, 1929
ASSOCIATE MEMBERS		
BLEY, Charles Nicholas.....		Feb. 11, 1929
DOUGLASS, Glenn Drury.....		Feb. 11, 1929
JUNIORS		
SNYDER, Baird, Jr.....		Feb. 28, 1929

Resignations

MEMBERS		Date of Resignation
BAUM, Harry William.....		Feb. 21, 1929
SIBLEY, Frederick Hubbard.....		Feb. 18, 1929
ASSOCIATE MEMBERS		
CALLAHAN, Cornelius Joseph.....		Feb. 21, 1929
HAUSER, Leon Aaron.....		Feb. 21, 1929
HORWEGE, Alvin Arthur.....		Feb. 9, 1929
HUTCHINGS, John Bacon, Jr.....		Mar. 1, 1929
JACKSON, Robert George.....		Feb. 23, 1929
MERRILL, Edwin Carleton.....		Dec. 31, 1928
NOLAND, Clarence J.....		Feb. 26, 1929
RANNEY, Charles Garfield.....		Feb. 11, 1929
WEINSTEIN, Joseph.....		Feb. 23, 1929
JUNIORS		
FISHER, George J.....		Feb. 21, 1929
KINZEY, Albert Freeman.....		Feb. 23, 1929

Deaths

ANDERSON, Robert Paul. Elected Member, January 18, 1926; died January 24, 1929.
BROOKS, Walter Freeman. Elected Member, June 30, 1911; died February 7, 1929.
CURTIS, Fayette Samuel (<i>Past President</i>). Elected Member, April 3, 1889; died February 15, 1929.
FOSTER, Charles Clarence. Elected Associate Member, March 7, 1921; died December 27, 1928.
MOORE, Fred Forrest. Elected Member, April 3, 1907; died June 2, 1928.
STODDARD, Lewis Malcolm. Elected Member, March 11, 1919; died February 12, 1929.

Total Membership of the Society, March 5, 1929

Members	5 570
Associate Members	5 899
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Corporate Members	11 469
Honorary Members	16
Juniors	2 045
Affiliates	138
Fellows	7
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Total	13 675

